REMARKS

Claims 1, 2, 5-21 and 24-38 are pending. Claims 1, 2, 5-14, 16-21 and 24-38 stand rejected. Claim 15 stand objected to.

Claims 1, 20, 31, and 35 have been amended. No claims have been canceled. No claims have been added. Support for the amendments is found in the specification, the drawings, and in the claims as originally filed. Applicants submit that the amendments do not add new matter.

Double Patenting

Claims 1, 2, 5-21 and 24-38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6,208,971 in view of U.S. Patent No. 5,860,063 to Gorin.

Because the pending claims also stand rejected under 35 U.S.C. § 103, Applicant will submit a terminal disclaimer upon notification that the §103 rejections have been withdrawn.

Rejections under 35 U.S.C. § 103

Claims 1-2, 5-6, 12, 20, 21, 24, 31 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gorin in view of U.S. Patent No. 5,675,819 to Schuetze ("Schuetze") and further in view of U.S. Patent No. 6,317,707 to Bangalore et al. ("Bangalore").

Claims 7-11, 13-14, 16-19, 25-30, 32-34, and 36-38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gorin in view of Schuetze in view of

Bangalore and further in view of U.S. Patent No. 6,631,346 to Karaorman et al ("Karaorman").

Applicant has amended claim 1 to particularly point out that the *n*-tuple sequence is represented by a vector representation in a semantic space. Classifying the processed sequence of words as a predetermined command is performed based on the vector representation of the *n*-tuple sequence in the semantic space.

The Examiner stated that "Gorin does not specifically suggest that agglomerative clustering involves replacing a sequence of words with an associated n-tuple sequence, wherein the n-tuple sequence comprises all strings of n consecutive words in the sequence of words."(Office Action, 08/19/05, p. 6). Additionally, the Examiners also stated that "Gorin does not teach that the classification of a word sequence is based upon a vector representation of the processed sequence of words in a semantic space." (Office Action, 08/19/05, p.7).

As such, Gorin also fails to disclose processing the sequence of words using word agglomeration that replaces the sequence of words with an associated *n*-tuple sequence, the *n*-tuple sequence comprising all strings of *n* consecutive words in the sequence of words, wherein the *n*-tuple sequence is represented by a vector representation in a semantic space, as recited in amended claim 1. Additionally, Gorin fails to disclose classifying the processed sequence of words as a predetermined command based on the vector representation of the *n*-tuple sequence in the semantic space, as recited in amended claim 1.

Schuetze discloses computing word and word pairs frequencies in the corpus of word documents. Importantly, Schetze discloses

To reduce compute time in the example, only a subset of the matrix, corresponding to the 1000th through 6000th most frequent word, was decomposed. This decomposition defined a mapping from the 200 dimensional B-class space to a 20 dimensional reduced space. By applying the mapping to each of the 449,030 200-component B-class vectors, <u>a smaller 20-dimensional vector was computed for each word and pair</u>.

(Schetze, col. 16, line 13-20) (emphasis added)

Thus, Schutze merely discloses computing a vector for each pair of words, in contrast to computing a vector for the whole n-tube sequence, wherein the n-tube sequence comprises all strings of n consecutive words in the sequence of words, as recited in amended claim 1. As such, Schutze, similarly to Gorin, fails to disclose limitations of amended claim 1 of processing the sequence of words using word agglomeration that replaces the sequence of words with an associated n-tuple sequence, the n-tuple sequence comprising all strings of n consecutive words in the sequence of words, wherein the n-tuple sequence is represented by a vector representation in a semantic space. Additionally, Schutze, similarly to Gorin, fails to disclose classifying the processed sequence of words as a predetermined command based on the vector representation of the n-tuple sequence in the semantic space, as recited in amended claim 1.

Bangalore merely discloses that each word is represented as a feature vector (co. 1, line 64- col. 2, line 1) in contrast to the n-tuple sequence comprising all strings of n consecutive words in the sequence of words being represented by a vector in a semantic space, as recited in amended claim 1. As such, Bangalore, similarly to Gorin and Schutze fails to disclose, teach, or suggest limitations of amended claim 1 of processing the sequence of words using word agglomeration that replaces the sequence of words with an associated n-tuple sequence, the n-tuple sequence comprising all strings of n consecutive

words in the sequence of words, wherein the *n*-tuple sequence is represented by a vector

representation in a semantic space. Additionally, Bangalore, similarly to Schutze and

Gorin, fails to disclose classifying the processed sequence of words as a predetermined

command based on the vector representation of the *n*-tuple sequence in the semantic

space, as recited in amended claim 1.

Thus, neither Gorin, Schutze, nor Bangalore discloses, teaches, or suggests such

limitations of amended claim 1.

Therefore, Applicant respectfully submits that amended claim 1 is not obvious

under 35 U.S.C. § 103 (a) over Gorin in view of Schutze, and further in view of

Bangalore.

Because amended independent claims 20, 31, and 35 contain at least the discussed

above limitations of amended claim1, Applicant respectfully submits that claims 20, 31,

and 35 are likewise not obvious under 35 U.S.C. § 103 (a) over Gorin in view of Schutze,

and further in view of Bangalore.

Given that claims 2, 5-6, 12, 21, and 24 depend, directly or indirectly, from

amended claims 1 and 20, and add additional limitations, Applicant respectfully submits

that claims 2, 5-6, 12, 21, and 24 are likewise not obvious under 35 U.S.C. § 103 (a) over

Gorin in view of Schutze, and further in view of Bangalore.

Claims 7-11, 13-14, 16-19, 25-30, 32-34, and 36-38 stand rejected under 35

U.S.C. § 103(a) as being unpatentable over Gorin in view of Schuetze in view of

Bangalore and further in view of U.S. Patent No. 6,631,346 to Karaorman et al

("Karaorman").

Karaorman merely discloses word confidence vector 168 (Figure 4), which

indicates how well the words in the input sentence were recognized, in contrast to the *n*-

tuple sequence comprising all strings of n consecutive words in the sequence of words being represented by a vector in a semantic space, as recited in amended claim 1.

As such, Karaorman, similarly to Bangalore, Gorin, and Schutze, fails to disclose, teach, or suggest limitations of amended claim 1 of processing the sequence of words using word agglomeration that replaces the sequence of words with an associated n-tuple sequence, the n-tuple sequence comprising all strings of n consecutive words in the sequence of words, wherein the n-tuple sequence is represented by a vector representation in a semantic space. Additionally, Karaorman, similarly to Bangalore, Gorin, and Schutze, fails to disclose classifying the processed sequence of words as a predetermined command based on the vector representation of the n-tuple sequence in the semantic space, as recited in amended claim 1.

Therefore, Applicant respectfully submits that amended claim 1 is not obvious under 35 U.S.C. § 103 (a) over Gorin in view of Schutze, in view of Bangalore, and further in view of Karaorman.

Because amended independent claims 20, 31, and 35 contain at least the discussed above limitations of amended claim1, Applicant respectfully submits that claims 20, 31, and 35 are likewise not obvious under 35 U.S.C. § 103 (a) over Gorin in view of Schutze, in view of Bangalore, and further in view of Karaorman.

Given that claims 7-11, 13-14, 16-19, 25-30, 32-34, and 36-38 depend, directly or indirectly, from respective amended claims 1, 20, 31, and 35, and add additional limitations, Applicant respectfully submits that claims 7-11, 13-14, 16-19, 25-30, 32-34, and 36-38 are likewise not obvious under 35 U.S.C. § 103 (a) over Gorin in view of Schutze, in view of Bangalore, and further in view of Karaorman.

Allowable Subject Matter

Applicant thanks the Examiner for indicating that dependent claim 15 contains allowable subject matter if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
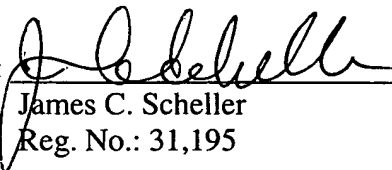
At this time, Applicant elects not to place the limitations of the allowed claims into their corresponding independent claims because Applicant respectfully believes that the revised independent claims are in condition for allowance.

It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. If there are any additional charges, please charge Deposit Account No. 02-2666 for any fee deficiency that may be due.

Respectfully submitted,

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